Applicant : Stephen K. Pinto et al.
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Filed : April 16, 2004
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Attorney's Docket No.: 17146-007001

Amendments to the Drawings:

The attached replacement sheets of drawings include changes to Figs. 1 and 3 and replace the original sheets. In Fig.1, the reference character "24" used to designate the "model development platform" is corrected to reference character "25." A new Fig. 3 of sufficient quality is also attached. No new matter has been added.

Attachments following last page of this Amendment:

Replacement Sheet (2 pages)
Annotated Sheet Showing Change(s) (1 page)

REMARKS

The comments of the applicant below are each preceded by related comments of the examiner (in small, bold type).

2.   The information disclosure statement filed 2/28/05 fails to comply with 37 CER

1 .98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Legible copies of the references are included with an attached copy of a revised information disclosure statement.

3.   The information disclosure statement filed 2/28/05 lists NFL in http://wvm.spss.com/Clementine/index. htm, http://www.spss.com/spssbi/directresponse/clementinewebinar/index.cfm?dcoded41 83 http://www.sas.com/technologies/analytics/datamining/miner, and http://www.jmp.com. This information referred to has not been considered since such NFL most likely varies with time, it's not dated, and it is accessed via an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code and to provide the NPL.

Printed copies of the references are enclosed and listed, with dates, on the revised information disclosure statement.

4.   The information disclosure statement filed 5/27/05 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of publications, applications, or other information submitted for consideration by the Office. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

The applicant asks the examiner to consider and take into account the information stated on the cover sheet of the information disclosure statement.

5.   The information disclosure statements filed 2/28/05, 5/27/05, 7/17/06, and 12/18/06 contain a large number of references submitted for consideration that appear to be cumulative and are consistent with the progress in the art. In view of the number of references in this application, the Applicant is requested to identify any specific references, features, sections or figures in the references cited which are believed to have particular significance in the prosecution of this application or which are considered material to the patentability of the pending claims, for further consideration by the Examiner. After glancing

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through the excessive number of references submitted, Examiner found some of them as unrelated to the limitations set forth in the instant application.

Without taking position on any of the other references cited in the information disclosure statement, the applicant considers U.S. Patent 6,879,971 to Keeler and U.S. Patent 6,954,758 to O'Flaherty to be particularly relevant.

11.   Claims 1, 3,4,7, 11, 12, 15, 18, 24, 27, 28, 36, 37, 38, and 40 are objected to because of the following informalities:

12.   Claim 1 lines 7 and 8 refer to "population", would be better as "population of predictor variables" to avoid any possible antecedent issues.

13.   Claim 1 line 12 refers to "model", would be better as "possible model" to avoid any possible antecedent issues.

14.   Claim 3 lines 2 and 3 refer to the term "the most significant predictor variables". Term may raise enablement issues, because no way of determining significance of predictor variables is claimed.

15.   Claim 4 line 3 refers to the term "associated dataset". Term lacks antecedent basis.

16.   Claim 7 line 3 includes the term "a lift chart with a link to the lift chart", meaning is unclear. Examiner interprets as either "a lift chart" or "a link to the lift chart" for examination purposes.

17.   As to claims 15 and 18, they contain the same "lift chart with a link to the lift chart", deficiency as set forth above.

18.   Claim 7 lines 3-4 include the term "a response comparison chart ., and a link to the response comparison chart", meaning is unclear. Examiner interprets as either "a response comparison chart" or "a link to the response comparison chart" for examination purposes.

19.   Claim 11 line 3 refers to the term "fit". Term lacks antecedent basis.

20.   Claim 12 line 1 includes the term "including a enabling a determination", meaning is unclear.

21.   Claims 24 and 27 line 2 refer to the term "historical data set" and "historical dataset". Term lacks antecedent basis.

22.   Claim 28 line 2 includes the misspelled term "use". Examiner interprets as "user" for examination purposes.

23.   Claims 38 and 40 use the acronym or variable "NPV", the first use of an acronym or variable in a claim should be defined to avoid any possible indefiniteness issues.

24.   Appropriate correction is required. No new matter may be introduced in the required correction.

25.   Claims 18, 27, and 28 recite the limitation "subsets". The claims language does not specify how data is partitioned into "subsets".

26.   Claims 20 and 21 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s) or amend the claim(s) to place the claim(s) in proper dependent form. As per claim 18, a link to the (non-)cumulative lift chart already causes display of the (non-)cumulative lift chart, that's what a link does.

27.   Claims 36 and 37 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s) or amend the claim(s) to place the claim(s) in proper dependent form. As per claim 34, the subject matter is a method.

Amendments have been made.

29.   Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. How to determine the "most potent" variables for the target goal is not elaborated in the instant application. The subject matter description of "most potent" in the specification amounts to repetition/instantiation of "most potent" (see page 2, lines 8—10 of the instant application). No definition of "potency" is elaborated in the description.

...

31.   Claims 29, 36, and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

32.   Claim 29 recites the limitation "project database". There is insufficient antecedent basis for this limitation in the claims.

33.   Claims 36 and 37 are directed to a system, claim 34 is directed to a method, it is unclear if applicant is claiming a system or a method because the claims as written are directed to both, placing them into two separate and distinct categories of patentable subject matter.

34.   Claim 37 recites the limitation "using the computed propensities as indices of the scores". There is insufficient antecedent basis for this limitation in the claims.

35.   Claims 31-33 and 38-40 are rejected under 35 U.S.C. 112, second paragraph, a~ being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. In claim 31, the omitted step is:

producing/generating, before displaying to a user, a lift chart (of some parameter vs. another parameter), monotonicity scores, and concordance scores associated with each step in a step-wise model fitting process.

36.   Dependent claims inherit the defect of the claim from which they depend.

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Amendments have been made.

38.   Claims 1-30 and 34-37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

39.   Specifically, in claim 1 there is no tangible result claimed, only an abstract idea. Generate does not equate to tangibility.

40.   Specifically, claim 1 does not produce a useful, concrete and tangible result if the model does not generalize to the data other than the subsample.

41.   Specifically, claim 34 does not produce a useful, concrete and tangible result. The claim, more specifically "enabling a user to combine at least two variables", not

being capable of imparting functionality, fails to reflect any practical utility. Thus, there would be no "useful" result upon execution. Enabling a user to combine at least two variables does not equate to concreteness nor tangibility.

42.   Dependent claims inherit the defect of the claim from which they depend.

Without conceding the examiner's position, amendments have been made.

44.   Claims 1-40, are rejected under 35 U.S.C. 102(b) as being anticipated by Cabena et al., (Cabena hereinafter), Intelligent Miner for Data Applications Guide. (See IDS dated 12/18/06).

45.   As to claim 1, Cabena discloses a machine-based method comprising in connection with a project in which a user generates a predictive model based on historical data about a system being modeled (see chapter 1.5.1, Pages 9-11): selecting variables having at least a predetermined level of significance from a pool of potential predictor variables associated with the data, to form a population of predictor variables (see page 101, 2~ and 3rd paragraphs), extending the population to include non-linear interactions of variables and extending the population to include linear and non-linear extensions with remaining previously excluded variables (see page 93 2nd paragraph), generating a possible model of the extended population of variables using a subsample of the data (see "Feature Selection" and "Train and Test" in page 95), determining whether the model generalizes to the data other than the subsample (see page 101, last paragraph), if so, applying the possible model to all of the data to generate a final model, and cross-validating the final model using random portions of the data (see page 97, last paragraph).

Amended claim 1 recites "automatically selecting a model generation method from among a set of available model generation methods to match characteristics of the historical data …[and] … generating a possible model of the extended population of variables … by the model generation method." Nothing in Cabena describes or would have made obvious "automatically selecting a model generation method from among a set of available model generation methods to

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match characteristics of the historical data ...[and] ... generating a possible model of the extended population of variables ... by the model generation method."

...

75.   As to claim 31, Cabena discloses a machine-based method comprising in connection with a project in which a user generates a predictive model based on historical data about a system being modeled (see chapter 1.5.1, Pages 9-11), displaying to a user a lift chart (see page 101, last paragraph, lines 1-5 and page 105, 1st and 2nd paragraphs), monotonicity (see page 101, last paragraph, last 3 lines and page 119, 2nd bullet from the bottom), and concordance scores (see Chapter 1.5.1, Pages 9-11) associated with each step in a step-wise model fitting process (see page 98, 2nd paragraph).

...

78.   As to claim 34, Cabena discloses a machine-based method comprising receiving from separate sources, sets of variables representing historical data about a system being modeled (see page 92, paragraphs 2—5), and enabling a user of a model generation tool to combine at least two of the variables from the sets of variables (see "Okay Customer Set", "Good Customer Set" and "Create Objective Variable" items in page 90, Fig. 46).

Claim 31 is patentable for at least the same reason as claim 1.

Amended claim 34 recites "receiving .. sets of potential predictor and dependent variables ... and ...enabling a user of a model generation tool to combine at least two of the *dependent* variables from the sets of potential predictor and dependent variables." (emphasis added) Nothing in Cabena describes or would have made obvious "receiving .. sets of potential predictor and dependent variables ... and ...enabling a user of a model generation tool to combine at least two of the dependent variables from the sets of potential predictor and dependent variables."

79.   As to claim 35, ...

80.   As to claim 36, ...

81.   As to claim 37, ...

82.   As to claim 38, ...

83.   As to claim 39, ...

84.   As to claim 40, ...

All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.
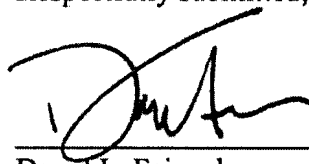
Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Enclosed is a Petition for Three Month Extension of Time and an Information Disclosure Statement. The fees in the amount of $510 and $180 are being paid concurrently on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other required fees to deposit account 06-1050, referencing 17146-007001.

Respectfully submitted,

Date:_____9|19|7_____

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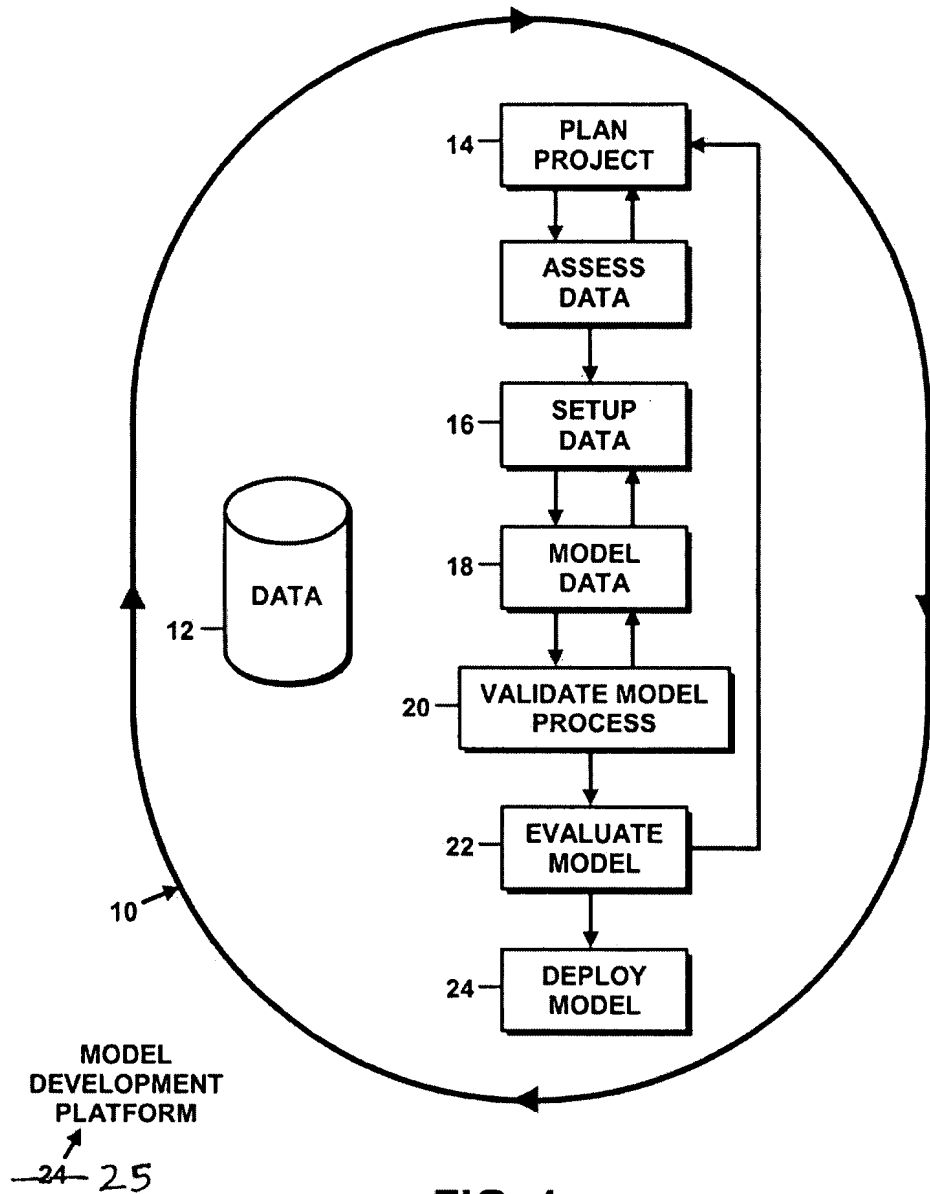Telephone: (617) 542-5070
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PLAN PROJECT
14

ASSESS DATA

SETUP DATA
16

MODEL DATA
18

VALIDATE MODEL PROCESS
20

EVALUATE MODEL
22

DEPLOY MODEL
24

DATA
12

10

MODEL DEVELOPMENT PLATFORM
24 25

FIG. 1